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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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William Randolph Schmidt

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BRINKS HOFER GILSON & LIONE/MARVELL

P.O. BOX 10395

CHICAGO, IL 60610

EXAMINER

MCLEAN, NEIL R

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/630,419	Applicant(s) SCHMIDT, WILLIAM RANDOLPH	
	Examiner Neil R. McLean	Art Unit 2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 December 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 36 and 39-52 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 36, and 39-52 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Claims

1. Claims 36, and 39-52 are pending in this application.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 36, and 39-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jeyachandran et al. (US 6,667,810) hereinafter 'Jeyachandran' in view of Hartmann (US 6,096,091).

Regarding Claim 36: (Previously Presented)

Jeyachandran discloses a printer formatter comprising:

a processor (Printer Control Unit 601) to perform at least a first print function associated with a print job (Printer Control Unit 601 controls the Printer 206; Column 19, line 42);

a system input/output (I/O) (Command Analysis/Process Unit 208) associated with the processor to receive an input signal and provide an output signal (e.g., Client request is received by the Command Analysis/Process Unit 208 which outputs command or print job to the Database 104; Column 18, lines 15-18);

a formatter controller (Conversion Control Unit 603) to perform at least a first formatting function associated with the print job (A format conversion is performed using an appropriate image conversion library; Column 29, lines 28-30); and

a print server (Server 103; Note: Server 103 is within printing device; Column 19, lines 29-31), in communication with the processor (e.g., Client requests are transmitted to the server component 103; Column 18, lines 2-3), to manage a print queue (Server 103 communicates with the database 104 via the database manager 209 to add or to update a job, or to acquire data; Column 18, lines 32-34);

Jeyachandran discloses all of the above limitations, including wherein the processor (601), the system I/O (208), the formatter controller (603), and the print server (103) are all located within the printer (Figures 1 and 6).

However, Jeyachandran does not disclose expressly a substrate including a microchip comprising the processor, the system I/O, the formatter controller, and the print server.

Hartmann discloses wherein multiple devices are on a single chip (Figure 1; Computer Chip 100 comprising a plurality of reconfigurable logic networks. The chain of logic networks 110 may be of any length, either limited to a single integrated circuit 100, or passing various inputs and outputs between a plurality of integrated circuits 100. Each integrated circuit 100 may be identical or specialized in a special purpose configuration; Column 6, lines 10-14).

Hartmann & Jeyachandran are combinable because they are from the same field of endeavor of image processing; e.g., both references disclose methods of processing and controlling the transmission of data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to disclose a substrate including a

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microchip comprising the processor, the system I/O, the formatter controller, and the print server. The suggestion/motivation for doing so is to decrease cost and improve performance by using an integrated circuit in which all the components needed for a computer or other system are included on a single chip. It is well known in the art that cost is low because the chips, with all their components, are printed as a unit and not constructed one transistor at a time. Furthermore, much less material is used to construct a circuit as a packaged IC die than as a discrete circuit. The performance of ICs is high because the small size allows short traces which in turn allows low power logic to be used at fast switching speeds. Hartmann discloses in the Background of Invention that chip makers can place an excess of 50 million transistors on a single integrated circuit (Column 1, lines 24-38). Hartmann further discloses a need for a system and method that will bring broad varieties of applications with dynamically reconfigurable logic networks for processing in a system on a chip (SoC). Therefore, it would have been obvious to combine Hartmann's integrated circuit on a single computer chip with Jeyachandran's printing system to obtain the invention as specified to lower the cost per unit and increase the speed of a printing system.

Regarding Claim 39: (Previously Presented)

The proposed combination of Hartmann & Jeyachandran, explained in the rejection of claim 36, renders obvious the:

"Printer formatter of claim 38 wherein the microchip is configured to function within the printer."

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This occurs in the operation of the proposed combination as discussed above.

Thus, the arguments similar to that presented above for claim 36 are equally applicable to claim 39.

Regarding Claim 40: (Previously Presented)

Jeyachandran further discloses the printer formatter of claim 36 wherein the system I/O is configured to receive the print job (Command analysis/process unit 208 adds or updates a print job to Database 104; Column 18, lines 15-18).

Regarding Claim 41: (Previously Presented)

Jeyachandran further discloses the printer formatter of claim 36 wherein the formatter controller is configured to convert the print job from a first format to a second format (e.g., step S2211 the format conversion library is employed to convert the job into a JPG or GIF format.)

Regarding Claim 42: (Previously Presented)

Jeyachandran further discloses the printer formatter of claim 36 wherein the formatter is configured to compress the print job (Figure 25; STEP S2506 'COMPRESS AND ENCODE BYTE TRAIN').

Regarding Claim 43: (Previously Presented)

Jeyachandran further discloses the printer formatter of claim 36 wherein the formatter controller is configured to de-compress the print job (Figure 20: STEP S1802 the UnformatData function is employed to decode and develop compressed data; Column 26, lines 64-65).

Regarding Claim 44: (Previously Presented)

Jeyachandran further discloses the printer formatter of claim 36 wherein the system I/O is configured to generate an I/O interrupt in response to receiving the input signal (e.g., a request "selection of a print button" is converted into a print command; Column 18, line 64 - Column 19, line 3), and the processor is configured to perform an I/O function in response to receiving the I/O interrupt (then, "execution of a process corresponding to the print button", and printing is performed; Column 19, lines 3-4).

Regarding Claim 45: (Previously Presented)

Jeyachandran further discloses the printer formatter of claim 44 wherein the I/O function includes receiving and storing the print job (Command analysis/process unit 208 adds or updates a job to Database 104; Column 18, lines 15-18).

Regarding Claim 46: (Previously Presented)

Jeyachandran further discloses the printer formatter of claim 44 wherein the I/O function includes providing an indication to the print server that the print job has been received (The Flowchart of Figure 11 shows the processing performed by the server 103 when a client issues a request).

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Regarding Claim 47: (Previously Presented)

Jeyachandran further discloses the printer formatter of claim 36 wherein the print server is configured to generate a print server interrupt in response to detecting the print job (The server component 103 receives a request from the client component 102 at step S1101, and analyzes this request at steps S1102 to S1103; Column 24; lines 63-65), and the processor is configured to perform a print server function in response to receiving the print server interrupt (...and performs a corresponding process; Column 24, lines 65-66 e.g., Figure 28 shows processes performed by server).

Regarding Claim 48: (Previously Presented)

Jeyachandran further discloses the printer formatter of claim 36 wherein the processor is configured to store the print job in the print queue (FIG. 23 is a flowchart showing the PrintJob processing. STEP S2311 'SEND JOB TO PRINT QUEUE')

Regarding Claim 49: (Previously Presented)

Jeyachandran further discloses the printer formatter of claim 36 wherein the processor is configured to provide a print job status notification. (FIG. 5 is a diagram showing the sequence of the processing performed to display for a user the processing results and a status change)

Regarding Claim 50: (Previously Presented)

Jeyachandran further discloses the printer formatter of claim 36 wherein the processor is configured to provide a print job complete notification (Figure 23 is a flowchart for print job processing; STEP S2312 'REVISE ENTRY TO "PRINTING SUCCESS" OR "PRINTING FAILURE"; THEN

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STEP S2313 'SET NOTIFICATION STATUS IN ACCORDANCE WITH PRINTING STATUS'; Note: Figure 27; Send Notification Processing; e.g., Pop-Up Window).

Regarding Claim 51: (Previously Presented)

Jeyachandran further discloses the printer formatter of claim 36 wherein the processor is configured to provide a print error notification (Figure 23 is a flowchart for print job processing; STEP S2312 'REVISE ENTRY TO "PRINTING SUCCESS" OR "PRINTING FAILURE"; THEN STEP S2313 'SET NOTIFICATION STATUS IN ACCORDANCE WITH PRINTING STATUS'; Note: Figure 27; Send Notification Processing; e.g., Pop-Up Window).

Regarding Claim 52: (Previously Presented)

Jeyachandran further discloses the printer formatter of claim 36 wherein the processor is configured to remove the print job from the print queue in response to a cancel signal. (FIG. 26 is a flowchart showing the CancelJob processing; Column 29, lines 39-57)

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Neil R. McLean whose telephone number is (571)270-1679. The examiner can normally be reached on Monday through Friday 7:30AM-4:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on 571.272.7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Neil R. McLean/
Examiner, Art Unit 2625

***/David K Moore/
Supervisory Patent Examiner, Art Unit 2625***